

## **A GUIDE FOR INDUSTRY SPONSORS OF RESEARCH AT MIT**

Many companies sponsor research at MIT by providing funds to support a research project on a topic of mutual interest.

Sponsored research programs enable the sponsor, MIT, and the public to benefit not only from the generation of new knowledge, but also from the societal and economic rewards of the commercialization of innovations.

This guide provides an introduction for industrial organizations on how to engage in successful research collaborations with MIT and many other research universities around the world.

Click on any of the links below to learn more about how to approach this exciting opportunity for innovation and learning.

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## **BENEFITS OF WORKING WITH MIT**

Corporate research organizations share the strategic need to:

- Identify and exploit new sources of innovation
- Leverage corporate research capabilities in a cost-effective manner
- Establish and expand the company's expert network
- Recruit the best new talent for the company's future growth and leadership

### **Innovation**

Sponsors recognize that innovative products and services, improved quality, and increased productivity are fundamental sources of corporate growth and improved financial performance. Nowadays, valuable innovation arises both within and outside a company, and research universities like MIT have become major partners in innovation with industry and government.

### **Cost-Effective Leveraging of Corporate Research Capabilities**

By its very nature, fundamental research involves the risks of exploration and experimentation to gain novel understanding.

Often, industry's ability to conduct important fundamental research in-house is constrained by investors' attitudes toward risk and their focus on near-term financial rewards. Consequently, fundamental research today generally occurs within universities and national research laboratories, while corporate research organizations focus on applied research and bringing innovative products and services to market.

As a leading research university, MIT houses knowledge resources, physical assets, and an interdisciplinary culture that are designed to perform high-risk, fundamental research in its established disciplines. Each industrial research sponsor pays part of the cost of research it supports, by reimbursing MIT's direct and indirect costs to conduct the specific project. MIT funds the academic-year salary of its faculty, and half of the annual cost of graduate student tuition. Most important, the U.S. government supports nearly 80 percent of MIT's total on-campus research volume, thereby providing \$4 for every \$1 from industry toward supporting MIT's research and educational infrastructure. Due to this financial support structure for MIT research, a company can engage in fundamental research at MIT at a significantly lower overall cost than if the company were to build and maintain a similar infrastructure in its own laboratories.

### **Expansion of Expert Innovation Network**

Research relationships with MIT faculty and scientists can extend a company's expertise outside its core competencies, creating an expanded expert network.

### **Recruiting**

Sponsored research projects enable talented MIT students to acquire in-depth knowledge of technology that will be of high future value to a sponsor. By sponsoring student research and cultivating relationships with MIT students, companies greatly enhance their ability to recruit valuable talent for future company growth.

## ELEMENTS OF AN EFFECTIVE RESEARCH PROJECT

In addition to a sponsor's specific objectives for sponsoring research at MIT, most industry-sponsored research at the Institute shares these characteristics:

- The research is ambitious and highly challenging.
- The research results generate value for both the sponsor and MIT.
- The planning and management of the research (as governed by the research agreement) recognize these characteristics and anticipate how both parties may derive value from the research.

### Highly Challenging Research

Ambitious and highly challenging research projects:

- Have a potentially important and long-term impact
- Advance the frontiers of present knowledge
- May yield unexpected outcomes and thus require flexible management
- Are complex, often requiring multidisciplinary teams

### Value for Both Parties

- Mutual Learning  
A sponsor's primary objective in sponsoring research at MIT is to gain knowledge that allows the company to incorporate innovative technologies into its products and services, build new competencies, and/or increase productivity.  
  
MIT's objectives are to advance the scholarship of MIT faculty and scientists, train students for careers, and enable further cutting-edge research.
- Impact of Research Results on Markets and Society  
MIT and sponsors both want research results to generate new products and services in the market, thereby benefiting society through economic growth and the advancement of knowledge.
- Formula for [Sharing Success](#)  
MIT furthers its goal of benefiting society by licensing sponsors to commercialize [inventions](#) generated during the research they sponsor. If an MIT invention enables a sponsor to [bring a new product or service to market](#), MIT shares in its successful research by receiving a modest [royalty](#). MIT's royalties are shared with its inventor(s) and are reinvested in future research.

### Planning, Management, and Agreement

- Before a research agreement is drafted, the sponsor and MIT's principal investigator should [reach consensus](#) on the area of research interest, the project plan, the budget, the schedule, the communication of results, and the respective contributions of both parties.
- Both parties should identify internal champions and relationship managers for the project.
- An agreement then can be drafted that defines the project and serves the respective interests of both parties.

## ALIGNING INTERESTS FOR MUTUAL BENEFIT

Companies and universities both benefit when fundamental research results can be translated to commercial applications in a reasonably short time. Toward that goal, each party brings its respective strengths and externally imposed constraints.

Industry desires to increase shareholder value through growth and competitive advantage. To that end, corporate management orchestrates its personnel and investments to achieve corporate goals.

MIT aims to enable its professors and students to learn, advance knowledge, discuss research results freely among themselves and with peers, and educate the world through [publications](#). With that in mind, the Institute's leaders endeavor to create an environment that supports the academic goals of MIT's scholars.

Fortunately, arrangements that balance the respective interests and cultures of industry and academia are well demonstrated, even if some of their details are not widely understood. Every year at MIT, corporate sponsors successfully participate in hundreds of research projects. Only rarely do MIT and a potential corporate sponsor fail to reach agreement on a sponsored research contract, and those instances generally are due to a significant misalignment of the company's and MIT's interests and capabilities.

## RELATIONSHIP MODEL

### Peer-to-Peer vs. Customer-Vendor Relationship Models

The goal of fundamental research is mutual learning that each party can effectively share and exploit in the framework of its respective mission. A peer-to-peer relationship model supports this goal of mutual learning and knowledge transfer.

Therefore, the most successful sponsored research agreements recognize the benefits of sharing the learning from the research between MIT and the sponsor, within MIT, and with society via publications, while protecting the potential commercial value of research innovations via [patents and licensing](#).

One frequent cause of difficulty in establishing a research relationship between a company and a university is a differing view of the fundamental nature of that relationship.

A customer-vendor relationship cannot provide structural support for these goals. The following table outlines the key differences and major benefits of a peer-to-peer research relationship.

<b>Peer-to-Peer Research Relationship</b>	<b>Customer-Vendor Research Relationship</b>
<ul style="list-style-type: none"><li>• Seeks mutual intellectual exchange</li></ul>	<ul style="list-style-type: none"><li>• Seeks to <a href="#">purchase tangible deliverables or services</a></li></ul>
<ul style="list-style-type: none"><li>• Recognizes that fundamental research is inherently risky</li></ul>	<ul style="list-style-type: none"><li>• Constrains mid-course corrections on unexpected research developments; predefined deliverables and outcomes often cannot be specified at the outset</li></ul>
<ul style="list-style-type: none"><li>• Recognizes that the research may create broader business opportunities</li></ul>	<ul style="list-style-type: none"><li>• Research results, which are speculative, cannot have a <a href="#">predetermined fair market value</a></li></ul>
<ul style="list-style-type: none"><li>• Values the university's contribution to the research (e.g., existing expertise and background intellectual property, faculty and student support, and research infrastructure)</li></ul>	<ul style="list-style-type: none"><li>• Precludes MIT researchers from engaging further in the sponsor's area of interest, even if that future research were only in part based on the current research</li></ul>

## INTELLECTUAL PROPERTY

Rights in [patents](#) and [copyrights](#) that a research project may produce vary depending upon the type of intellectual property.

MIT cannot transfer the ownership of its intellectual property to others. Policy, [tax regulations](#), the pervasiveness of [government funding](#) in our laboratories, [export control laws](#), and the resultant regulations that affect the majority of our patents prevent the Institute from doing so.

A summary of licensing arrangements for each type of intellectual property is presented below.

### Patentable Inventions

MIT offers a full range of license options for sponsors to practice patentable inventions that are generated during a sponsored research project, both for commercial and research use.

Commercial license options include exclusive royalty-bearing licenses and non-exclusive royalty-free licenses.

#### *Patent Licensing Options for MIT's Sole Inventions*

MIT aims to have its research yield public benefit through commercialization in a reasonably short time. Sponsors usually share this goal and are the best parties to achieve it.

MIT offers sponsors a variety of license options for patented inventions that are created solely by MIT inventors:

- **Commercial, Exclusive, Royalty-Bearing, Sublicensable License**

A sponsor may elect an option for an exclusive commercial license to practice a patented invention in those geographic regions where it asks MIT to file, and in the fields of use appropriate for the sponsor's capabilities and commitment to exploit the invention.

The royalty supports further research at MIT, and provides an incentive for researchers to disclose inventions that result from the research. MIT has a long history of successfully negotiating commercially reasonable licenses and royalties with sponsors.

U.S. [tax regulations](#) require that license royalties on university-owned patents granted to sponsors must be at fair market value determined at the time the patent becomes available. This precludes MIT from specifying license or royalty terms in a research agreement.

- **Commercial, Non-Exclusive, Royalty-Free, Non-Sublicensable License**

In many cases, the sponsor's business plan does not require an exclusive license for commercialization of inventions arising from the research. In those instances, no royalties are required.

- **Internal License for Use in the Sponsor's Continued Research**

To enable sponsors to continue internal research and development in the sponsored research area, MIT automatically grants sponsors a non-exclusive, non-transferable, royalty-free license for internal research purposes.

- **Patent Costs**

For both non-exclusive and exclusive licenses, MIT asks the sponsor to reimburse MIT for patent costs. Such reimbursement is not required for the internal research use license.

### *Joint Inventions*

Patentable inventions jointly created by MIT and a sponsor inventor are jointly owned by MIT and the sponsor. Each party may license others without accounting to the other party. If the sponsor desires an exclusive position in a joint invention, then MIT offers an option to an exclusive, commercial, royalty-bearing license to MIT's rights in the invention.

### **Copyrights**

For computer software and its documentation and/or databases that are specified to be delivered as part of the project, the sponsor receives an option to elect a royalty-free, non-exclusive, non-transferable license to use, reproduce, make derivative works based upon, display, and distribute to end users, such computer software and its documentation and/or databases for internal and/or commercial purposes.

For other copyrighted material that is specified to be delivered under the research agreement, the sponsor is automatically granted a royalty-free, non-exclusive, irrevocable, non-transferable, license to use, reproduce, make derivative works, display, distribute and perform such materials for the Sponsor's internal purposes..

Copyright licenses do not extend to copyrightable materials that are not research deliverables, such as student theses or researcher publications in journals.

## TRADE SECRETS AND CONFIDENTIAL INFORMATION

Research often produces information and knowledge that could be competitively significant to a sponsor.

Routine sponsor-researcher communications during the project provide early access for the sponsor to this information before [publication](#) of the research results.

Since MIT must freely publish the results of its research, the Institute is unable to establish trade secrets.

MIT is willing to maintain the confidentiality of sponsor-owned confidential information that is needed by an MIT investigator for preparation or conduct of a sponsored research project. These confidentiality obligations can be described in a [Sponsored Research Agreement](#) or in a separate [Non-Disclosure Agreement](#).

In order for MIT to know what information is confidential, that information must be marked as confidential at the time the Institute receives it.

## ACADEMIC PUBLISHING

Timely publication of research results is the primary means by which a university accomplishes its educational mission to distribute advanced knowledge around the world. Publishing in highly respected publication venues is essential to the career advancement of the research team's professors and students.

To ensure that a sponsor's [confidential information](#) is not inadvertently disclosed—and to prevent premature disclosure of patent information that could damage patent rights—sponsors may review proposed publications 30 days before publication (with a possible limited extension allowed if necessary to file patent applications).

Peer-reviewed journals and conference presentations are important publication venues. Increasingly, they require authors to identify the source of the funding support in all papers. For this reason, in most academic publications, MIT must be able to identify and acknowledge a research sponsor's support.

## USE OF TAX-EXEMPT BONDS

MIT uses tax-exempt bonds to finance many of its research facilities. U.S. tax laws prohibit the use of these facilities to benefit a private user (defined as a company, foundation, or state or local government).

*IRS Revenue Procedure 2007-47* (June 26, 2007) provides a more complete interpretation of the regulations, and outlines the uses that do not constitute a private business use (the “safe harbor”). In order to operate within these safe harbor provisions, MIT is not able to:

- Grant sponsors ownership of, or title to, research results or intellectual property.
- Grant licenses, pre-determine value, or cap or negotiate royalties, in research agreements, for intellectual property that has not yet been created.

## INCOME TAX LAWS FOR NON-PROFITS

In order to preserve its non-profit, tax-exempt 501(c)(3) status for income tax purposes, MIT cannot provide services that are commercially available. Several examples are:

- Product design
- Building prototypes
- Facility engineering
- Testing services (unless a testing facility is experimental and unique to MIT)

For a related topic, please see [Elements of an Effective Research Project](#)

## THE BAYH-DOLE ACT

The Bayh-Dole Act (35 U.S.C. 200-212) requires universities to grant the U.S. federal government a non-exclusive, non-transferable, irrevocable, paid-up license to practice (or have practiced on its behalf throughout the world) any inventions arising from research funded in whole or part by the federal government. The Bayh-Dole Act also forbids assignment of such patents to third parties.

## EXPORT CONTROL LAWS

MIT qualifies for an exemption for fundamental research under the U.S. export control laws, because the Institute’s research is entirely fundamental in nature, and the research results are publishable without restriction. This exemption is critically important to MIT because it allows any student, faculty, or research staff member to participate in any MIT research on campus without restriction due to national origin or citizenship.

Nevertheless, MIT and its research sponsors are not exempt from the U.S. export control and related laws that prohibit the export of certain tangible and digital items. For that reason, MIT and the sponsor must agree that the sponsor will not export controlled items that are related to the sponsored research without obtaining a government license.